

REMARKS

Claims 1-3, 5-21, 23-28, 30-42, 44-74, 76-85 and 87-123 are pending in the present application and all were rejected in the January 9, 2008 Office Action. No amendments to the application are being presented herein.

Applicant first notes that related U.S. Application No. 10/400,067, to which the present application claims priority under 35 U.S.C. §120, was involved in now-terminated Patent Interference No. 105,224. The above-noted involved U.S. Application (No. 10/400,067, parent of the present application) contained claims that were similar, but not identical to, claims of the present application. Applicant directs Examiner's attention to the Supplemental Information Disclosure Statement being filed concurrently herewith and notes that the Supplemental IDS includes certain references that were of record in the above-noted interference and that the Examiner may wish to consider in connection with the present application. Applicant also respectfully directs Examiner's attention to the record itself of the above-noted interference, and notes that various arguments were presented therein concerning the patentability or unpatentability of the claims of the involved application (i.e., the parent to the present case). Accordingly, the Examiner may also wish to review the interference record for any additional information he might consider useful in the examination of the present application.

The January 9, 2008 Office Action

Examiner's Provisional Obviousness-type Double-patenting rejection

Claims 1-3, 5-21, 23-28, 30-42, 44-74, 76-85 and 87-123 were provisionally rejected on the grounds of non-statutory obviousness-type double patenting as allegedly being unpatentable over the claims of copending U.S. Application 11/369,914.

In response, Applicant respectfully requests that the Examiner hold this rejection in abeyance until the indication of allowable subject, at which time Applicants will consider filing an appropriate Terminal Disclaimer.

Examiner's Rejections Under 35 U.S.C. §103

Claims 1-3, 5-21, 23-28, 30-42, 44-74, 76-85 and 87-123 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Heaney (USP 4,477,129), in view of Misonou (USP 6,830,791).

The Examiner's full rationale is set forth at pages 5-12 of the Office Action. With respect to the independent claims, i.e., 1, 26, 47, 61, 71, 90, 104, and 117, the Examiner has asserted that the Heaney reference discloses a door having inner, outer and middle sheets of glass, first and second sealants, a frame, and a coating that can be placed on virtually any of the sheets of glass. The Examiner has acknowledged (at page 6 of the Office Action) that Heaney does not disclose "two emissivity coatings." In fact, Applicant notes that Heaney identifies no low-emissivity coatings, nor makes any mention of emissivity at all. Rather, the Examiner relies on the disclosure of Misonou for its reference to a single emissivity coating, and concludes that it would have been obvious to one of ordinary skill in the art to use "emissive" coatings in order to aid in reduction of heat transfer through glass sheets. The Examiner also acknowledged (at page 7 of the Office Action) that the cited documents do not disclose the U values of the pending claims but stated that it nevertheless would have been obvious, as a matter of design choice, for a

refrigerator door to have the claimed U values. As justification for this position, the Examiner pointed to pages 8-9 of the Applicant's own specification's detailed description (not Background Section), which indicates that Applicant's own testing and computer modeling has shown that U values of approximately 0.2 BTU/hr-ft²-F are required for the refrigeration door to prevent condensation on the outside of the glass under the performance requirements of U.S industry standards.

In response, Applicant respectfully traverses the Examiner's rejection. Applicant's claimed invention is directed to, *inter alia*, a refrigeration door adapted for use in a refrigerating compartment, said door comprising an inner sheet of glass including a first surface and a second surface, said first surface of said inner sheet being disposed adjacent the interior of the refrigerating compartment; an outer sheet of glass including a first surface and a second surface, said first surface of said outer sheet being disposed adjacent the exterior environment of the refrigerating compartment; a middle sheet of glass disposed between said inner and outer sheets of glass; a first sealant assembly disposed around the periphery of said inner sheet of glass and said middle sheet of glass for maintaining said inner sheet and said middle sheet in spaced-apart relationship from each other; a second sealant assembly disposed around the periphery of said middle sheet of glass and said outer sheet of glass for maintaining said middle sheet and said outer sheet in spaced-apart relationship from each other; a first low emissivity coating adjacent the second surface of said inner sheet of glass; a second low emissivity coating adjacent the second surface of said outer sheet of glass; said inner sheet, outer sheet, middle sheet, first sealant assembly, second sealant assembly, and said first and second low emissivity coatings forming an insulating glass unit having a U value substantially equal to or less than 0.2 BTU/hr-sq ft-F or an emissivity substantially equal to or less than 0.04 substantially preventing the

formation of condensation on said first surface of said outer sheet of glass without the application of electricity for heating said first surface of said outer sheet of glass; and a frame secured around the periphery of said insulating glass unit. Neither of the documents cited by the Examiner discloses a U value of 0.2 BTU/hr-ft²-F or less, an emissivity of 0.04 or less or any specific value that would substantially prevent condensation on a refrigerator door without the need for the application of electricity. In fact, neither of the cited documents even mentions a U value or an emissivity value, (and thus, of course cannot even describe “low-emissivity” coatings, as required by the claims). Moreover, Misonou is not directed to any aspect of refrigeration, or refrigeration units or doors, and thus has little or nothing to do with the claimed invention. It does not contemplate the reduction of condensation without the need for electricity, nor does it contemplate any problem experienced in the refrigeration industry that the present invention is designed to address. Misonou therefore cannot be combined with Heaney to arrive at or even suggest the claimed refrigeration door. It merely discusses emissive coatings on glass surfaces. As such, the cited art simply does not teach one of ordinary skill in the art how to construct or use a door that is capable of functioning in accordance with the Applicant’s claimed invention. Even the Examiner’s rejection relies on the Applicant’s own detailed description of the invention (not Background) for its support. Simply put, therefore, without the Applicant’s own specification, one could not arrive at the Applicant’s claimed invention.

To reiterate, the present invention provides an “energy-free” refrigeration door that may be used for freezers, refrigerators, and similar units to provide condensation control, thermal insulation and visibility of the contents of the unit. Prior art approaches to preventing or reducing condensation on such doors on commercial refrigeration units used in markets have involved passing an electrical current through a conductive coating on one or more of the glass

surfaces of the insulating glass units (IGUs) of the door. The electric current heats the surfaces of the door so that the temperature of the glass is maintained above the dew point of the warmer ambient air of the building housing the market.

The present invention overcomes the deficiencies of the prior art doors by providing an “energy-free” door that controls condensation by providing thermal insulation and a desired amount of visible transmittance through the use of a low-emissivity (“low-E”) coated glass in the IGU. To achieve this result, the Applicant discovered that an IGU with low-E coated glass having an emissivity substantially equal to or less than 0.04 and/or a U value substantially equal to or less than 0.2 BTU/hr sq ft - F could achieve the desired result without the application of electricity to heat the door.

The use of low-E coatings on glass makes it possible to reduce the long wave radiation exchange between adjacent glass panes. Coating one of the adjacent glass panes with a low-E coating reduces the long wave radiation exchange between the panes, resulting in less heat being transmitted. Applicant discovered that the use of a low-E coating that provides an IGU having an emissivity substantially equal to or less than 0.04 and/or a U value substantially equal to or less than 0.2 BTU/hr - sq ft - F provides IGU's having improved condensation control where the interior temperature of the refrigeration compartment is substantially near or below freezing. As noted, the cited art does not provide emissivity values, low-E coatings, U-values, or any other specific information sufficient to achieve this result. In particular, the art does not specifically disclose the use of low-E glass in insulated glass units having an emissivity equal to or less than 0.04 and/or a U value substantially equal to or less than 0.2 BTU/hr - sq ft - F to substantially prevent the formation of condensation without the application of electricity for heating the outer surface of the insulated glass unit, as claimed in the present application. The cited references

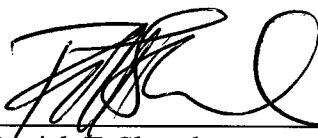
neither provide nor define the particular emissivity necessary to eliminate the need for an independent means of heating the panes of glass to control condensation, and make no mention of U-values or emissivity values at all.

In contrast, the present application does teach emissivities and U-values that are effective in eliminating condensation, and further provides specific examples of commercial embodiments that may be used to achieve the claimed invention. Only after reviewing the disclosure of the present application, which provides, for example, tables containing certain design parameters combined in different permutations that can be used to construct the claimed door, does one of ordinary skill have sufficient information to achieve the claimed insulated glass unit, which can function as a door of a refrigeration unit and can prevent condensation without the application of electric current to heat the door. The present invention therefore embodies improved properties that make the unit useful as a see-through door for a refrigeration unit. As such, the inventive unit is not suggested and cannot be constructed from the prior art teachings of Heaney and Misonou without using the present application as a blueprint. The finding that the specific selection and/or combination of elements disclosed by the present application results in an IGU having U values substantially equal to or less than 0.2 BTU/hr-sq ft-F, and emissivity values of substantially equal to or less than 0.04 without the need for application of electricity, was painstaking and detailed. Only through the teachings of the present application can such a door be constructed. The cited art, in contrast, provides no specific teachings that suggest how to make a refrigeration door having the particular features of the presently claimed invention. Therefore, because the art fails to teach or suggest all of the features of the independent claims, the Examiner's obviousness rejection of all claims is improper. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

Applicant believes that the remarks presented herein fully address the concerns as set forth in the January 9, 2008 Office Action and that the application is in condition for allowance. Reconsideration of the instant application and an early notice of allowance are therefore requested. The Examiner is invited to telephone the undersigned if it will expedite allowance of the application.

Respectfully submitted,

By



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